



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,562	04/22/2004	Robert W. Hayman	4272-005	6351
24112	7590	10/04/2004	EXAMINER	
COATS & BENNETT, PLLC			THOMPSON, JEWEL VERGIE	
P O BOX 5			ART UNIT	PAPER NUMBER
RALEIGH, NC 27602			2855	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/829,562

Applicant(s)

HAYMAN, ROBERT W.

Examiner

Jewel V Thompson

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-15 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/22/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Information Disclosure Statement

1. Acknowledgement is made of the Information Disclosure Statement filed April 22, 2004, which has been made record of and placed in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 7, 10-15, 18, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Genack et al (6,012,339).

Regarding claims 1, 11, 12 and 18, Genack et al teaches a flow meter (10) comprising: a. a housing (12); a cylindrical flow chamber (16) disposed in the housing and having an interior cylindrical wall (fig. 3) c. a rotor (38) rotatively mounted within the flow chamber (col. 4, lines 6-8); d. an inlet (26) formed in the housing and open to the chamber for directing fluid into the chamber (fig. 1); e. an outlet (28) formed in the housing and open to the chamber for directing fluid from the chamber; f. the inlet and outlet being axially spaced with respect to the flow chamber (figs. 1 and 3); g. the rotor mounted between the inlet and outlet but axially spaced from both the inlet and the outlet (fig. 2); h. the inlet oriented with respect to the interior cylindrical wall of the

Art Unit: 2855

cylindrical flow chamber such that the fluid directed into the chamber via the inlet is directed generally tangential to the interior wall of the chamber (fig. 2); and i.

wherein the orientation of the inlet with respect to the rotor and interior wall of the chamber causes the fluid directed into the chamber to spiral around the interior wall and move from the inlet around the rotor, causing the rotor to rotate, and out the outlet (fig. 6).

Regarding claim 5, Genack et al teaches the outlet is oriented generally tangential to the cylindrical interior wall of the flow chamber (figs. 1 and 2).

Regarding claim 7, Genack et al teaches a sensor (76) for determining the rotational speed of the rotor.

Regarding claims 10 and 22, Genack et al teaches the flow chamber is elongated (Fig. 6).

Regarding claim 13, Genack et al teaches the fluid upon initially entering the chamber will move axially through the chamber before engaging the rotor, after engaging the rotor the fluid will move still further axially without engaging the rotor before being directed out of the chamber (fig. 1).

Regarding claim 14, Genack et al teaches the fluid spirals through the chamber and engages and rotates the rotor.

Regarding claim 15, Genack et al teaches the flow rate of fluid passing through the chamber by measuring the revolutions of the rotor (abstract).

Regarding claim 20, Genack et al teaches the inlet enters the chamber generally tangential to the interior cylindrical wall of the chamber (fig. 1).

Regarding claim 21, Genack et al teaches the outlet enters the chamber generally tangential to the interior cylindrical wall of the chamber (fig. 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genack et al in view of McMillan et al (5,728,949).

Regarding claim 2, Genack et al fails to teach the cylindrical flow chamber is formed by the housing and a pair of opposed threaded plugs secured within threaded portions of the housing. McMillan et al teaches a pair of opposed threaded plugs secured within the threaded portions of the housing (fig. 4). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used the pair of threaded plugs of McMillan et al in the flow meter of Genack et al for the purpose of providing a replaceable nozzle, which makes maintenance and repair convenient.

Regarding claim 3 and 19 Genack et al fails to teach each threaded plug includes an inner end portion; and wherein the rotor rotates about a shaft that extends

Art Unit: 2855

through the rotor and is received in the inner end portions of the threaded plugs.

McMillan teaches the threaded plug including an inner end portion (fig. 4). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used the threaded plug including an inner end portion of McMillan on the rotor of Genack et al for the purpose of allowing the rotor to freely spin while securing the caps at the threaded ends.

Regarding claim 4, Genack et al fails to teach each end portion of the threaded plug includes a face, and wherein the rotor is supported between the faces of the threaded plugs such that the rotor is generally spaced from the faces. McMillan teaches the threaded plugs include a face (fig. 4). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used the support having threaded portions and a face of McMillan et al in the flow meter of Genack et al for the purpose of supporting the rotor while allowing the rotor to maintain position without hitting any other elements.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genack et al

Regarding claim 6, Genack et al fails to teach the outlet is larger than the inlet. It would have been obvious to one of ordinary skill to have made the outlet larger than the inlet, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being with the level of ordinary

Art Unit: 2855

skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have made the outlet larger than the inlet of Genack et al for the purpose of providing for the increase in the speed of the flow of fluid based on passing through the rotating rotor.

Allowable Subject Matter

5. Claims 8, 9, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2855

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jewel V Thompson whose telephone number is 571-272-2189. The examiner can normally be reached on 7-4:30, off alternate Mondays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jyt

September 29, 2004



EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800